

Amendments To The Claims

Claim 1 (Currently amended): A method of detecting thiopurine methyltransferase (TPMT) comprising:
obtaining a biological sample from an individual; ~~and~~
assaying for the level of a TPMT-catalyzed reaction product by contacting the biological sample with an antibody that binds to a methylated reaction product of TPMT to form a complex; and
detecting said complex.

Claim 2 (Cancelled)

Claim 3 (Currently amended): The method of claim ~~2~~1 wherein the antibody binds to 6-methylmercaptopurine (6-MMP).

Claim 4 (Original): The method of claim 3 wherein the 6-MMP is free or bound to a carrier molecule or solid support.

Claim 5 (Original): The method of claim 1 wherein the antibody is a polyclonal antibody.

Claim 6 (Original): The method of claim 1 wherein the antibody is a monoclonal antibody.

Claim 7 (Original): The method of claim 1 wherein the biological sample is selected from the group consisting of blood, serum, and saliva.

Claim 8 (Currently amended): The method of claim ~~2~~1 wherein the detecting step further includes the substep of linking or incorporating a label into the antibody.

Claim 9 (Currently amended): The method of claim ~~2~~1 wherein the detecting step uses ELISA-based immunoenzymatic detection.

Claim 10 (Original): The method of claim 9 wherein the ELISA-based immunoenzymatic detection comprises the steps of: a) covalently binding substrate 6-mercaptopurine (6-MP) to a carrier protein to form a conjugate; b) coating the wells of an ELISA plate with the conjugate; c) methylating the conjugate; and d) measuring the optical signal of the methylated conjugate.

Claim 11 (Original): The method of claim 10 wherein the optical signal is measured at about 450 nm.

Claim 12 (Withdrawn): A rapid immunomigration cassette comprising: a) an immunocassette; b) chromatography paper, said chromatography paper having antibody specific to a methylated reaction product of TPMT and additional capture molecule dried thereon, said antibody being affixed to gold molecules, said chromatography paper being encased in the immunocassette; c) a biological sample suspected of containing methylated reaction product of TPMT.

Claim 13 (Withdrawn): The immunomigration cassette of claim 12 wherein the antibody is anti-6-MMP.

Claim 14 (Withdrawn): The immunomigration cassette of claim 12 wherein the capture molecule is selected from the group consisting of avidin and Protein A.

Claim 15 (Withdrawn): The immunomigration cassette of claim 12 wherein the immunocassette includes a transparent window for visualizing an antigen-antibody-gold particle complex formed on the chromatography paper.

Claim 16 (Withdrawn): The immunomigration cassette of claim 12 further including an ELISA assay.

Claim 17 (Withdrawn): The immunomigration cassette of claim 16 wherein the ELISA assay comprises: a) a biological sample suspected of containing TPMT; a) antibody specific to a

methyated reaction product of TPMT; b) a 6-mercaptopurine (6-MP)-carrier protein conjugate; c) an ELISA plate; d) means for labeling the conjugate that is methyated by the TPMT; and e) means for measuring the optical signal of the methyated conjugate.

Claim 18 (Withdrawn): A kit for quantitatively measuring the levels of TPMT in a biological sample comprising: a) a biological sample suspected of containing TPMT; b) an ELISA plate, said ELISA plate being coated with a carrier protein-6-MP conjugate; c) antibody specific to a methyated reaction product of TPMT; d) means for labeling the conjugate that is methyated by the TPMT; and e) means for measuring the optical signal of the methyated conjugate.

Claim 19 (Withdrawn): The kit of claim 18 whereby the biological sample is selected from the group consisting of blood, serum, and saliva.

Claim 20 (Withdrawn): The kit of claim 18 whereby the carrier protein is BSA.

Claim 21 (Withdrawn): The kit of claim 18 whereby the labeling means is an immunostain.

Claim 22 (Withdrawn): The kit of claim 21 whereby the immunostain comprises a peroxidase conjugate and a peroxidase substrate.

Claim 23 (Withdrawn): The kit of claim 22 whereby the peroxidase conjugate is Protein A-Horseradish peroxidase.

Claim 24 (Withdrawn): The kit of claim 22 whereby the peroxidase substrate is tetramethylbenzidine.

Claim 25 (Withdrawn): The kit of claim 18 whereby the methyated reaction product of TPMT is 6-MMP.